

Name Answer Key

Period _____

Geometry Unit 8 Worksheet #1

For # 1 – 6, Find the sum of the interior angles in each polygon.

1.



$$(8-2) \cdot 180^\circ$$
$$1080^\circ$$

2.



$$(5-2) \cdot 180^\circ$$
$$540^\circ$$

3.



$$(7-2) \cdot 180^\circ$$
$$900^\circ$$

4. 12-gon

$$(12-2) \cdot 180^\circ$$
$$1800^\circ$$

5. 18-gon

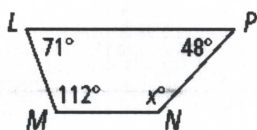
$$(18-2) \cdot 180^\circ$$
$$2880^\circ$$

6. 25-gon

$$(25-2) \cdot 180^\circ$$
$$4140^\circ$$

For #7-13, find the sum of the interior angles. Then use the sum to find the value of x.

7)

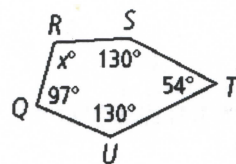


$$360 - (71 + 48 + 112) = x$$
$$360 - 231 = x$$
$$129^\circ = x$$

sum 360°

x = 129°

8)

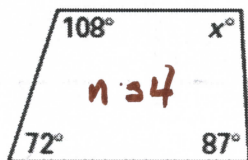


$$540 - (130 + 54 + 130 + 97) = x$$
$$540 - 411 = x$$
$$129^\circ = x$$

sum 540°

x = 129°

9)



$$360 - (108 + 72 + 87) = x$$

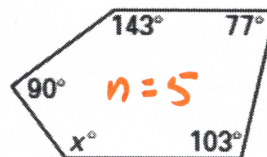
$$360 - 267 = x$$

$$93 = x$$

$$\text{sum } \underline{360^\circ}$$

$$x = \underline{93^\circ}$$

10)



$$540 - (90 + 143 + 77 + 103) = x$$

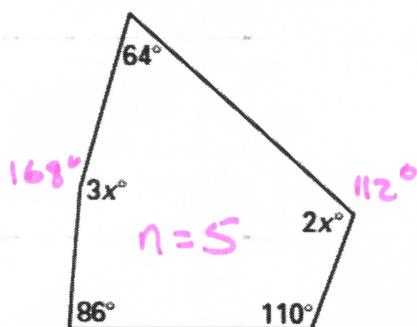
$$540 - 413 = x$$

$$127 = x$$

$$\text{sum } \underline{540^\circ}$$

$$x = \underline{127^\circ}$$

11)



$$540 - (64 + 110 + 86) = 3x + 2x$$

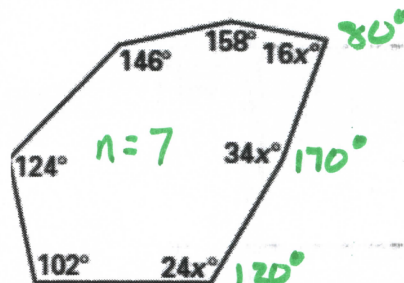
$$540 - 260 = 5x$$

$$280 = 5x$$

$$\text{sum } \underline{540^\circ}$$

$$x = \underline{56^\circ}$$

12)



$$(7-2) \cdot 180^\circ = 900^\circ$$

$$900 - (102 + 124 + 146 + 158) =$$

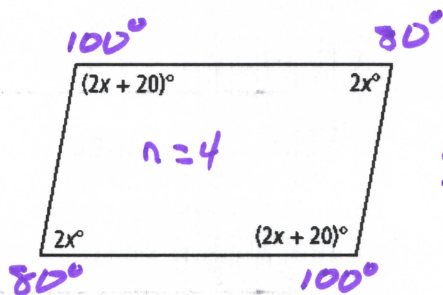
$$16x + 34x + 174 =$$

$$\text{sum } \underline{900^\circ}$$

$$900 - 530 = 370 = 74x$$

$$x = \underline{5^\circ}$$

13)



$$360 = (2x + 20) + 2x + 2x + (2x + 20)$$

$$360 = 8x + 40$$

$$320 = 8x$$

$$40 = x$$

$$\text{sum } \underline{360^\circ}$$

$$x = \underline{40^\circ}$$